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Observations on the Damara
Chameleon *Microsaura*
damarana Boulenger

SUMMARY

- (1) Observations on fifteen *Microsaura damarana* at Tsitsikama National Park are recorded.
- (2) The Damara Chameleon appears to have a definite home site, usually in Tree Ferns, to which it returns at night.
- (3) Sexual differences in colour and tail length are noted.
- (4) The known range of *M. damarana* is extended eastwards by 45 (forty-five) to 50 (fifty) miles.

Some interesting observations were made on the habits and habitat of fifteen specimens of the Damara Chameleon, *Microsaura damarana* while conducting an amphibian and reptile survey in the Tsitsikama National Park between the 12th and 14th June and the 10th and 12th July, 1965.

Yellowwoods *Podocarpus* Spp. Stinkwood, *Ocotea bullata*, Ironwoods *Linociera foveolata* and *Olea capensis* are some of the dominant trees forming a closed canopy some one hundred feet above the ground. The Chameleons occur in the undergrowth which receives very little direct sun and consists mainly of *Onderbos Trichocladus crinitus*, ferns *Blechnum* spp. and Tree Ferns *Cyathea capensis*. The latter invariably growing along the banks of small streams.

At night on the 13th June, while searching the banks of the Varkriver for amphibians, the Chief Nature Conservator of the Park, Mr. R. Liversidge and the author collected a female *M. damarana* which was sleeping hidden in the dead aphlebia of a Tree Fern, *Cyathea capensis*. This specimen was five to six inches below the crown of the fern and about five and a half feet from the ground. A male *M. damarana* was found in a similar situation on another Tree fern a few feet away.

Before dawn on the 14th June the author searched the area of the "Big Tree" near the Storms River Bridge. Another two female *M. damarana* were found in almost identical sleeping positions as the pair from Varkriver. During the

morning two more female *M. damarana* were collected curled up among the aplebia and young fronds in the crowns of two tree ferns about eight feet apart. Due to their posture, with coiled tail, which resembled the coiled shoot of a frond in the crown of the fern, they were extremely difficult to detect.

The Big Tree area on the night of the 10th July produced a further two chameleons "A" & "B" sleeping in the dead aplebia on the trunk of Tree ferns - these two were not taken. The night of the 11th July a *M. damarana* was found on a fern *Blechnum capense* at the base of a rocky undercut section of the Varkriver banks, in an area that had been searched that afternoon. The chameleon was not in the normal sleeping position with coiled tail but was straddled over two fronds with its tail straight. In the same area a chameleon was found in the normal sleeping posture on a fern frond *Polystichum adiantiforme* about twelve to fourteen inches from the ground. At the Big Tree area a female was collected sleeping on Onderbos, *Trichodadus crinitus* about six feet from the ground, a Juvenile was found on the frond of a tree fern and a male in the dry aplebia on the side of a tree fern. Another "C" was found in a small hollow in the base of a fallen tree, the latter chameleon was not taken.

During late afternoon on the 11th July the two Chameleons "A" and "B", were in the same situations as the previous night. Unfortunately "A" was disturbed and moved into the fronds of the fern where it was well concealed always keeping, if possible, the stem of the frond between itself and the observer. "A" spent the night (11th July) in the fronds. "B" was undisturbed. The following morning (12th July) at 7.20 a.m. "A" and "B" had not moved from the positions of the night before. "C" was still in its log but was unfortunately disturbed and moved onto a root about two feet away. At 6.30 p.m. it was on Onderbos some three and a half feet from the log. By 8.30 a.m. (12th July) "A" had moved from its sleeping position in the fern fronds and despite a diligent search was not found. "A" was back in its original position on the trunk of the tree fern at 6.30 p.m. Although observed for some hours in the morning "B" remained in the same position as the previous night and always endeavoured to keep its back towards the observer. It would appear from these observations that *M. damarana* has a fixed home site to which it normally returns at night.

The four chameleons collected on a cold night (13th June) were white in colour while those found during the warmer nights of the 10th and 11th July were a bright apple green. As in other chameleons (Ditmars, 1922) their colours vary greatly according to light intensity and temperature. At 7.50 a.m. (12th July) "B" had gone dark brown and green, making it very difficult to detect on the side of the fern, the temperature was 14°C. At 6.30 p.m. when the temperature was 17.5°C., A and B were bright apple green. The males of *M. damarana* can become highly coloured in shades of green, blue, purple, yellow and black (see Plate 2). As yet a highly coloured female has not been observed; they appear to remain light to dark shades of brown or green, occasionally there is a pinky red area above and posterior to the forelimbs.



PLATE I — *CORDYLUS MACROPHOLIS* in its natural habitat near Lambert's Bay



PLATE II — MALE *MICROSAURA DAMARANA*

SPENCE - DAMARA CHAMELEON

By dissection the females were found to contain eggs numbering in P. E. M. 1501/14, seven, 1501/15, nine, 1501/16, six, 1501/17, ten, 1501/19, twenty, 1501/20, seven, 1501/21, fourteen. According to local residents the young *M. damarana* are born in late summer.

Their young, as in other species of *Microsaura* (FitzSimons (1943) and personal observations of *M. ventralis ventralis*), are deposited by the female in transparent membranous eggs, which have a sticky covering and adhere to the first branch or twig they touch. The young immediately break out of the membranes and are fully independent. The juvenile *M. damarana* collected has a total length of 55.4 mm. At this size it was coloured in shades of brown and green.

The largest male *M. damarana* found has a total length of 192.5 mm. and the total length for the largest female was 175.8 mm. while the largest specimen cited by FitzSimons (1943) is 167.5 mm. All body length measurements were taken immediately after death. It can be seen from Table 1 that there is a tendency for the males to have comparatively longer tails than the females.

The known distribution of *M. damarana* appears to be restricted to the Knysna Coastal Forest, between George and Stormsriver, FitzSimons (1943) records specimens from George, Knysna, Deepwells and Avontuur. Thus these records from Coldstream and Stormsriver extend the known range eastwards by 45 to 50 miles.

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- Ditmars, R. L. 1922. "Reptiles of the world," Macmillan, New York. Pages 188 to 191.
FitzSimons, V. F. 1943. "The Lizards of South Africa." Transvaal Mus. Mem. No. 1. (Pretoria) Pages 158 to 172.

TABLE 1
MEASUREMENTS OF MICROSaura DAMARANA

P. E. M. No.	Sex	Body Length	Tail length	Total length	% of tail to Total length
1501/14	♀	68.8 m.m.	83.0 m.m.	151.8 m.m.	54.7
/15	♀	59.7	68.3	128.0	53.4
/16	♀	51.6	58.5	110.1	53.1
/17	♀	68.5	82.8	151.3	54.7
/19	♀	78.3	97.5	175.8	55.5
/20	♀	64.6	67.0	131.6	50.9
/21	♀	72.0	82.2	154.2	53.3
/18	♂	78.0	114.5	192.5	59.5
/22	♂	62.5	77.5	140.0	55.4
/23	♂	56.4	76.5	132.9	57.6
/24	♂	54.6	70.6	125.2	56.5
Mean ♀	=	53.6%			
Mean ♂	=	57.2%			